COVER SHEET

TEST PROCEDURE PREPARATION:

Prepared by: NSWC PHD DAM NECK DET CODE 6D10 Date: 24 NOV 97
TDA Organization and Code

TEST PROCEDURE REVIEW:

Reviewed by: NSWC PHD DAM NECK DET CODE 6D10 Date: 24 NOV 97
TDM Organization and Code

DOCUMENTATION CERTIFICATION:

Approved by: _____ Date:
TDD Organization and Code

REVISION RECORD

REV/CHG	DESCRIPTION	Approval INITIAL	DATE
-	Original Issue	NSWC	24 Nov 97
A	Incorporated validation changes.	FES	18 Dec 98
B	Incorporates TPR 7207-095-C dtd. 07/01/99	FES	05 Jan 00

LIST OF EFFECTIVE PAGES

PG-REV	PG-REV	PG-REV	PG-REV	PG-REV	PG-REV	PG-REV
1 - B	2 - B	3 - B	4 - B	5 - B	6 - B	7 - B
8 - B	9 - B	10 - B	11 - B	12 - B	13 - B	14 - B
15 - B						

TEST OUTLINE

1. OBJECTIVE:

   To verify that the 63812-204222 Decoder, RADDS to Synchro (63812-204222 Decoder) is operating properly during initial light-off.

2. ESTIMATED TESTING TIME:

   1 hour

3. REFERENCES:

   SE245-AE-MMO-A10, Technical Manual for the Radar Signal Distribution Switchboard SB-4229A(V)/SP, Addendum 3, EC-3

4. TEST OR SUPPORT EQUIPMENT AND MATERIAL:

GENERIC NAME	QUANTITY	IDENTIFYING INFORMATION
a. Frequency Counter	1	SCAT 4296 or equivalent
b. Multimeter, Digital	1	SCAT 4237 or equivalent

5. COMPUTER PROGRAMS REQUIRED:

   None

6. PREREQUISITES:

   None

7. SPECIAL CONDITIONS AND SERVICES:

   115 VAC, 1 ϕ, 60 Hz Power

8. EQUIPMENT INVOLVED IN TEST:

   63812-204222 Decoder

9. CONFIGURATION:

   No field changes required to run this test.

TEST OUTLINE

10. METHOD:

A visual inspection of the 63812-204222 Decoder shall be conducted to ensure it is free of damage, debris and loose wire connections. Power shall be checked to ensure the correct input voltage, and that the output voltage levels from the power supply are within tolerance. The Light Emitting Diode (LED) indicators shall be verified to be functional.

11. STATION ASSIGNMENTS:

STATION	NO. PERSONNEL	COMMENTS
63812-204222 Decoder	1 Electronic Technician	Performs ILO Test

SAFETY INSTRUCTIONS

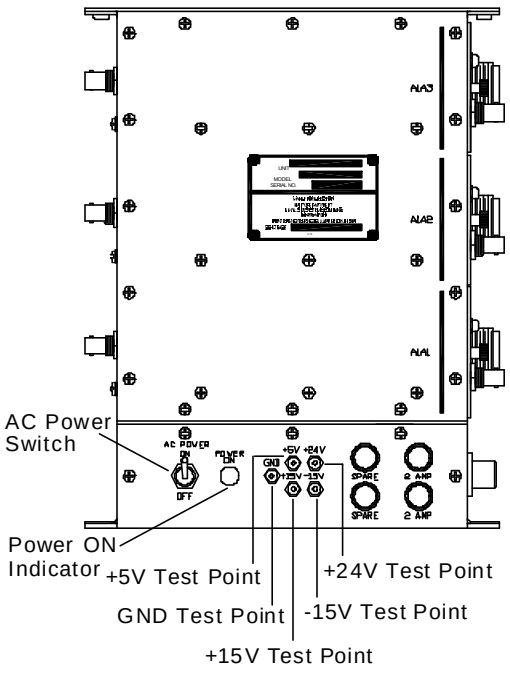
a. The operation of this equipment involves the use of high voltages that are dangerous to life. Extreme caution must be exercised at all times. Do not work on open or disassembled units when power is applied.

b. Turning OFF the 63812-204222 Decoder by using the AC POWER switch does not remove the ship 115 VAC.

INITIAL CONDITIONS AND SETUP

STEP	STATION	INSTRUCTIONS
1	SPDP	Turn OFF and tag Main Circuit Breaker at Ship Power Distribution Panel (SPDP).
2	63812-204222 Decoder	Set AC POWER switch (Figure 1) to OFF position.
3	63812-204222 Decoder	Inspect equipment for: a. Presence of foreign matter. b. Loose cables and cable connections. c. Damaged or chaffed cable insulation. d. Loose or missing protective covers. e. Loose modules, fastening hardware, or circuit cards.

63812-204222 Decoder
Front View



63812-204222 Decoder
Right Side View

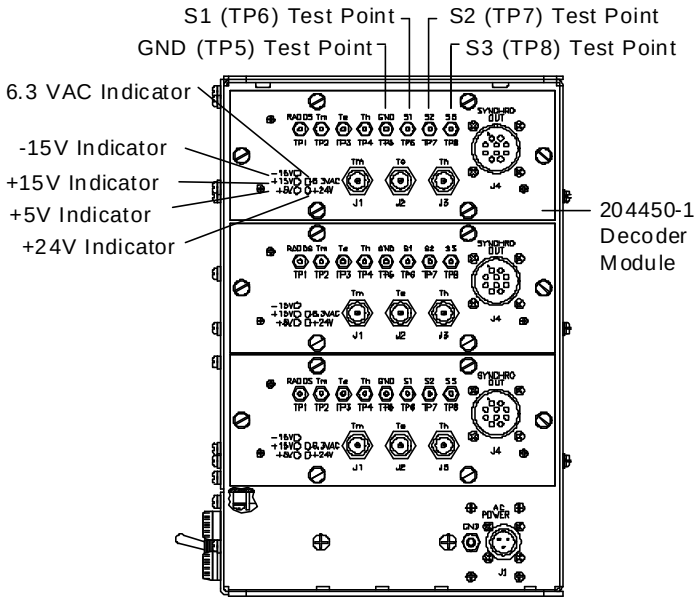


Figure 1. 63812-204222 Decoder

TESTING STEPS

STEP	STATION	INSTRUCTIONS
1	63812-204222 Decoder	Disconnect AC Input cable to J1 connector on the units side panel.
2	SPDP	Remove tag and turn ON Main Circuit Breaker at SPDP.
3	63812-204222 Decoder	Verify the following cable voltages and frequency. Contact — Signal Designation A to C — 105 VAC to 125 VAC B to Chassis GND — <1 VAC A to C — ≥50 Hz to ≤63 Hz RECORD on Test Data Recording sheet.
4	SPDP	Turn OFF and tag Main Circuit Breaker at SPDP.
5	63812-204222 Decoder	Reconnect AC Input cable to J1.
6	SPDP	Remove tag and turn ON Main Circuit Breaker at SPDP.
7	63812-204222 Decoder	Set AC POWER switch to ON position.
8	63812-204222 Decoder	Ensure Power ON indicator is lit. RECORD on Test Data Recording sheet.
9	63812-204222 Decoder	Use a Digital Multimeter to measure Power Supply voltages at the following test points: Test Point — Expected Value +5V — +4.75 VDC to +5.25 VDC +15V — +14.25 VDC to +15.75 VDC -15V — -14.25 VDC to -15.75 VDC +24V — +22.8 VDC to +25.2 VDC

TESTING STEPS

STEP	STATION	INSTRUCTIONS
		NOTE Connect the common black lead to a (GND) test point and measure the test points indicated. RECORD on Test Data Recording sheet.
10	63812-204222 Decoder	Ensure voltage indicators for each module (Part Number 204450-1) are lit. Indicator -15V +15V +5V +24V 6.3 VAC RECORD on Test Data Recording sheet.
11	63812-204222 Decoder	Disconnect RADDS 1 input cable connected to RADDS 1 J2 on left side.
12	63812-204222 Decoder	Use a Digital Multimeter to measure between module 1A1A1 (Part Number 204450-1) test points. Test Point — Expected Value S1(TP6) to S2(TP7) — 7.0 VAC to 9.0 VAC S2(TP7) to S3(TP8) — 7.0 VAC to 9.0 VAC S1(TP6) to S3(TP8) — less than 0.5 VAC RECORD on Test Data Recording sheet.
13	63812-204222 Decoder	Set AC POWER Switch to OFF position.
14	63812-204222 Decoder	Disconnect cable connected to SYNCHRO OUT (1A1A1J4) connector on module 1A1A1 (Part Number 204450-1).
15	63812-204222 Decoder	Set AC POWER Switch to ON position.
16	63812-204222 Decoder	Use a Digital Multimeter to measure the voltage between the following connector contacts of 1A1A1J4. Contact — Expected Value F to G — 105 VAC to 125 VAC RECORD on Test Data Recording sheet.

TESTING STEPS

STEP	STATION	INSTRUCTIONS
17	63812-204222 Decoder	Set AC POWER Switch to OFF position.
18	63812-204222 Decoder	Reconnect cable mating to SYNCHRO OUT (1A1A1J4) connector on module 1A1A1 (Part Number 204450-1).
19	63812-204222 Decoder	Reconnect RADDS 1 input cable to J2 on left side.
20	63812-204222 Decoder	Set AC POWER Switch to ON position.
21		Repeat steps 12 through 20 for module (Part Number 204450-1) installed in 1A1A2 location using RADDS 2 input jack (J3).
22		Repeat steps 12 through 20 for module (Part Number 204450-1) installed in 1A1A3 location using RADDS 3 input jack (J4).

SHUTDOWN AND SECURING

STEP	STATION	INSTRUCTIONS
1	63812-204222 Decoder	Set AC POWER switch to OFF position.

TEST DATA RECORDING

EQUIPMENT UNDER TEST

EQUIPMENT	SERIAL NO.
63812-204222 Decoder	_____

PREREQUISITES

None

Write "N/A" in ACTUAL RESULTS spaces for test sections where modules are not present in the 63812-204222 Decoder under test.

TEST DATA RECORDING

STEP	TEST ELEMENT	EXPECTED RESULTS	ACTUAL RESULTS
3	AC POWER INPUT CONNECTOR VOLTAGE LEVEL		
	J1 CONTACT		
	A to C	105 VAC to 125 VAC	_____VAC
	B to Chassis Ground	<1 VAC	_____VAC
	A to C	≥50 Hz to ≤63 Hz	_____Hz
8	POWER ON INDICATOR IS LIT		
	AC POWER Switch	Indicator is Lit	_____
9	POWER SUPPLY TEST POINT VOLTAGES		
	Power Supply		
	+5V	+4.75 VDC to +5.25 VDC	_____VDC
	+15V	+14.25 VDC to +15.75 VDC	_____VDC
	-15V	-14.25 VDC to -15.75 VDC	_____VDC
	+24V	+22.8 VDC to +25.2 VDC	_____VDC

SHIP HULL NO.	TEST CONDUCTOR SIGNATURE	GOVERNMENT WITNESS SIGNATURE	DATE

TEST DATA RECORDING

STEP	TEST ELEMENT	EXPECTED RESULTS	ACTUAL RESULTS
10	MODULE FRONT PANEL LEDS		
	1A1A1		
	-15V	Lit (Green)	_____
	+15V	Lit (Green)	_____
	+5V	Lit (Green)	_____
	+24V	Lit (Green)	_____
	6.3 VAC	Lit (Green)	_____
	1A1A2		
	-15V	Lit (Green)	_____
	+15V	Lit (Green)	_____
	+5V	Lit (Green)	_____
	+24V	Lit (Green)	_____
	6.3 VAC	Lit (Green)	_____
	1A1A3		
	-15V	Lit (Green)	_____
	+15V	Lit (Green)	_____
	+5V	Lit (Green)	_____
	+24V	Lit (Green)	_____
	6.3 VAC	Lit (Green)	_____
12	MODULE TEST POINT VOLTAGES		
	1A1A1		
	S1(TP6) to S2(TP7)	7.0 VAC to 9.0 VAC	_____VAC
	S2(TP7) to S3(TP8)	7.0 VAC to 9.0 VAC	_____VAC
	S1(TP6) to S3(TP8)	less than 0.5 VAC	_____VAC
	1A1A2		
	S1(TP6) to S2(TP7)	7.0 VAC to 9.0 VAC	_____VAC
	S2(TP7) to S3(TP8)	7.0 VAC to 9.0 VAC	_____VAC
	S1(TP6) to S3(TP8)	less than 0.5 VAC	_____VAC
	1A1A3		
	S1(TP6) to S2(TP7)	7.0 VAC to 9.0 VAC	_____VAC
	S2(TP7) to S3(TP8)	7.0 VAC to 9.0 VAC	_____VAC
	S1(TP6) to S3(TP8)	less than 0.5 VAC	_____VAC

_____	_____	_____	_____
SHIP HULL NO.	TEST CONDUCTOR SIGNATURE	GOVERNMENT WITNESS SIGNATURE	DATE

TEST DATA RECORDING

STEP	TEST ELEMENT	EXPECTED RESULTS	ACTUAL RESULTS
16	AC REFERENCE VOLTAGE 1A1A1 (1A1A1J4) F to G	105 VAC to 125 VAC	_____VAC
	1A1A2 (1A1A2J4) F to G	105 VAC to 125 VAC	_____VAC
	1A1A3(1A1A3J4) F to G	105 VAC to 125 VAC	_____VAC

SHIP HULL NO.	TEST CONDUCTOR SIGNATURE	GOVERNMENT WITNESS SIGNATURE	DATE

TEST EQUIMENT USED

List all test equipment utilized in the test including all general and specialized test equipment, special test cables, attenuators, and any other materials requiring calibration. Include extra sheets as necessary to identify all test equipment.

GENERIC NAME	MODEL	SERIAL NO.	CALIBRATION DUE DATE	REMARKS

SHIP HULL NO.	TEST CONDUCTOR SIGNATURE	GOVERNMENT WITNESS SIGNATURE	DATE

COMMENTS

This sheet is provided for the test conductor or Government witness to make appropriate comments including the following:

a. Visual observations of dynamic responses;
b. Erratic or unusual equipment behavior;
c. Operational or handling difficulties;
d. Procedural corrections;
e. Equipment malfunctions;
f. Discrepancies noted during test conduct; and,
g. Waivers including reference to authorization document, i.e., letter, message, etc.

Indicate if a Test Problem Report (TPR) was generated with respect to these or other problems.

SHIP HULL NO.	TEST CONDUCTOR SIGNATURE	GOVERNMENT WITNESS SIGNATURE	DATE